

10/031160

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of JOST

Application No. 10/031,160

Examiner:

Filed: January 10, 2002

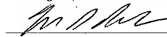
Group Art Unit:

For: SEAL FOR MEDIUM-CONDUCTING COMPONENTS

PRELIMINARY AMENDMENT

CERTIFICATE UNDER 37 CFR 1.8(a)

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Reg. No. 40,764

Box PCT
Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination on the merits, please amend the above-identified application as follows:

IN THE CLAIMS:

1. (Amended) A detachable sealing system for media-carrying parts comprising:
a seal adjacent to a wall of a media-carrying area, which seals the sealing system when the parts are braced against one another,
wherein the parts have mutually precisely complimentary sealing surfaces, which are directly pressed onto one another to form a clearance-free seal at a contact surface, and
wherein the contact surface between the sealing surfaces is limited to a narrow area directly adjacent to the media-carrying area.

2. (Amended) The sealing system according to claim 1, wherein the contact surface has a width of 1/5,000 to 1/50 of a nominal width of the sealing system.

3. (Amended) The sealing system according to claim 1, wherein the contact surface is loaded with a specific sealing pressure, which is in the elastic deformation range of a material of which the parts consist.

4. (Amended) The sealing system according to claim 1, wherein the sealing surfaces have a mutual guidance transverse to the media area wall.

5. (Amended) The sealing system according to claim 1, wherein the sealing surfaces have a cross-section with a mutually complimentary profile.

6. (Amended) The sealing system according to claim 1, wherein the sealing surfaces are designed in such a way that a specific sealing pressure decreases from an intersection line of a sealing gap between the sealing surfaces with the media-carrying area wall.

7. (Amended) The sealing system according to claim 1, wherein guide sections are provided on both parts, the guide sections situated transversely to and spaced from the sealing surfaces wherein, for pre-centering of the two parts, the guide sections have insertion bevels for bringing the two parts together, and a separating gap is formed between the guide sections for aligning the two parts before the sealing surfaces are pressed together.

8. (Amended) The Sealing system according to claim 1, wherein the media-carrying area walls of both parts are truly aligned.

9. (Amended) The sealing system according to claim 1, wherein, adjacent to the media-carrying area wall, the sealing surface of one of the parts has a sealing lip projecting towards the other part and which is received in a corresponding half-recess on the sealing surface of the other part.

10. (Amended) The sealing system according to claim 3, wherein the sealing pressure is predetermined by a stop provided by a clamping device.

11. (Amended) The Sealing system according to claim 1, further

comprising stop faces between the parts, which form a clearance between the parts, whose width is sufficiently large that on bracing the sealing system up to the closing of the clearance, a sealing pressure is built up by the elastic deformation of the parts.

12. (Amended) The Sealing system according to claim 1, further comprising an elastically deformable portion of the parts interposed between a clamping device and the sealing surfaces.

13. (Amended) The Sealing system according to claim 1, wherein the sealing system is a joint connection between two media-carrying parts.

14. (Amended) The sealing system according to claim 1, wherein the parts are made from an equally hard material.

15. (Amended) A method for the manufacture of a sealing system according to claim 1, wherein the sealing surfaces are produced by profile precision turning by means of mutually complimentary profile cutting edges.

16. (New) The sealing system according to claim 1, provided for aseptic applications.

17. (New) The sealing system according to claim 2, wherein the contact surface has a width of between 0.01 and 1 mm.

18. (New) The sealing system according to claim 3, wherein the specific sealing pressure is in the range of 20% to 80% of the yield point of the material forming the parts.

19. (New) The sealing system according to claim 6, wherein surface portions of the sealing surfaces are provided as reserve sealing surfaces adjacent to the contact surface, and which have a complimentary design.

20. (New) The sealing system according to claim 19, wherein an annular clearance with a size of 1/15,000 to 1/500 of a nominal width of the sealing system

3 is provided between the reserve sealing surfaces.

1 21. (New) The sealing system according to claim 11, wherein the clearance
2 with is 1/15,000 to 1/100 of a nominal width of the sealing system.

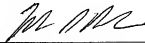
REMARKS

The foregoing Preliminary Amendment is made to present alternative definitions of the invention. No new matter is added. Examination on the merits is respectfully requested.

Respectfully submitted,

Date: 6/10/02

Docket No. 304-777


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RECEIVED PCT/PTO 12 APR 2002
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ATTACHMENT TO PRELIMINARY AMENDMENT SHOWING MODIFICATIONS

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Mr. D. R. R.

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Washington, D.C. 20231

Sir:

In accordance with 37 CFR §1.121, the amendments made to the application
are as follows:

IN THE CLAIMS:

1. (Amended) A detachable sealing system for media-carrying parts [(12,
13), particularly for aseptic applications, with] comprising:
a seal adjacent to [the media area] a wall [(30)] of a media-carrying area, [and]
which seals the sealing system [if] when the parts [(12, 13)] are braced against one
another, [characterized in that]
wherein the parts [(12, 13)] have mutually precisely complimentary sealing
surfaces [(20, 25)], which are directly pressed onto one another [for forming] to form
a clearance-free seal at a contact surface, and
wherein the contact surface [(44)] between the sealing surfaces [(20, 25)]
being] is limited to a narrow area directly adjacent to the media-carrying area [(19)].

2. (Amended) The sealing system according to claim 1, [characterized in

that] wherein [the width of] the contact surface [(44)] is has a width of 1/5,000 to 1/50 [preferably 1/1,000 to 1/250] of [the] a nominal width of the sealing system [and is in particular between 0.01 and 1 mm, preferably 0.05 and 0.2 mm].

3. (Amended) The sealing system according to claim 1, for 2, characterized in that] wherein the contact surface [(44)] is loaded with a specific sealing pressure, which is in the elastic deformation range of a [the] material of which the parts [(12, 13)] consist [preferably in the range of approximately 20 to 80% of the yield point (Rp0.2) of the material of the parts (12, 13), particularly between 30 and 140 N/mm].

4. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein the sealing surfaces [(20, 25)] have a mutual guidance transverse[ly] to the media area wall [(30)].

5. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein [the cross-section of] the sealing surfaces [(20, 25)] has have a cross-section with a mutually complimentary[, preferably S-shaped curved] profile.

6. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein the sealing surfaces [(20, 25)] are designed in such a way that [the] a specific sealing pressure decreases from [the] an intersection line of [the] a sealing gap [(45)] between the sealing surfaces with the media-carrying area wall [(30)] and preferably surface portions available as reserve sealing surfaces (21, 26) at the contact surface (44) are adjacent to both parts, which also have a complimentary design, particularly a curvature and preferably in the vicinity of the reserve sealing surfaces (21, 26) is provided an annular clearance (46) with a size of 1/5,000 to 1/500, preferably 3/5,000 to 7/5,000 of the nominal width of the sealing system].

7. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein guide sections are provided on both parts [(12, 13)] are provided], the guide sections situated transversely to and spaced

from the sealing surfaces [(20, 25) guide sections (35, 41)] wherein, for [the] pre-centering of the two parts, [and adjacent to] the guide sections [are] have insertion bevels [(34, 40, 42)] for [the] bringing [together of] the two parts together, and a separating gap is formed between the guide sections [(35, 41) is formed a separating gap (47)] for [through which there is a mutual] align[ment]ing [of] the two parts before the sealing surfaces [(20, 25)] are pressed together.

8. (Amended) The Sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein [the contact surface (44) is designed in such a way that] the media-carrying area walls [(30)] of both parts [(12, 13)] are truly aligned [in projection-free manner with] at the sealing gap [(45)].

9. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein, [the contact surface (44)] adjacent to the media-carrying area wall, [(30) is in an area of the sealing gap (45), where] the sealing surface [(20)] of one of the parts has a sealing lip [(37)] projecting towards the other part and which is received in a corresponding half-recess [(31)] on the sealing surface [(25)] of the other part.

10. (Amended) The sealing system according to claim 3, [one of the preceding claims, characterized in that] wherein the sealing pressure is predetermined by a stop[-limited] provided by a clamping device [(50)].

11. (Amended) The Sealing system according to claim 1, [one of the preceding claims, characterized in that] further comprising stop faces between the parts, which form [in the clamping direction there are stop faces with] a clearance [(48)] between the[m] parts, whose width is sufficiently large that on bracing the sealing system up to the closing of the clearance, [(48) the] a sealing pressure is built up by the elastic deformation of the parts[, the clearance width preferably being approximately 1/5,000 to 1/100, preferably 1/100 to 3/100 of the nominal width of the connection].

12. (Amended) The Sealing system according to claim 1, [one of the preceding claims, characterized in that] further comprising an elastically deformable

portion of the parts interposed between a clamping device [(50) bringing about the bracing of the parts] and the sealing surfaces [(20, 25) is interposed at least one portion of the parts subject to an elastic deformation, said portion being in particular formed by at least one annular or tubular projection (24) between the clamping device (50) and the sealing surface (20, 25)].


13. (Amended) The Sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein the sealing system is a joint connection between two media-carrying parts[, particularly between two pipes].

14. (Amended) The sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein the parts [(12, 13)] are made [from a hard material, the parts being in each case made] from an equally hard material[, particularly metal, such as stainless steel or plastic].

15. (Amended) A method for the manufacture of a sealing system according to claim 1, [one of the preceding claims, characterized in that] wherein the sealing surfaces [(20, 25)] are produced by profile precision turning by means of mutually complimentary profile cutting edges [and preferably the reserve sealing surfaces (21, 26) are produced simultaneously with the same profile cutting edges].

Respectfully submitted,

Date: 6/10/02


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